

CLAIMS

What is claimed is:

1. A liquid drop discharge device, comprising:
a discharge head discharging a liquid drop to a substrate; and
trajectory correcting means for applying energy to turn the liquid drop back to a predetermined trajectory when the liquid drop discharged out of the discharge head is diverted from the predetermined trajectory.
2. The liquid drop discharge device according to Claim 1,
wherein the energy further comprises light energy.
3. The liquid drop discharge device according to Claim 2,
wherein the trajectory correcting means drives the liquid drop by light pressure generated by the light energy.
4. The liquid drop discharge device according to Claim 2,
wherein the trajectory correcting means drives the liquid drop by kinetic energy of molecules generated when atmosphere around the liquid drop trajectory absorbs the light energy.
5. The liquid drop discharge device according to Claim 4,
wherein the liquid drop contains a photothermal converting material for absorbing and converting the light energy into heat.
6. The liquid drop discharge device according to Claim 2,

wherein the trajectory correcting means includes means for emitting a light beam surrounding the predetermined trajectory of the liquid drop.

7. The liquid drop discharge device according to Claim 6, wherein the light beam emitting means includes a laser light source.

8. The liquid drop discharge device according to Claim 6, wherein the trajectory correcting means is constructed to surround the predetermined trajectory of the liquid drop by using a planar light beam obtained by diffracting a light beam.

9. The liquid drop discharge device according to Claim 8, wherein the trajectory correcting means surrounds the predetermined trajectory of the liquid drop by using a cylindrical light beam obtained by diffracting a light beam.

10. The liquid drop discharge device according to Claim 8, wherein the trajectory correcting means discharges the liquid drop into a region surrounded by the light beam, at a place closer to the light source than another where a diffracted image of the light beam is focused.

11. The liquid drop discharge device according to Claim 6, wherein the light beam is emitted to the substrate from a direction opposite to the discharge head to surround the predetermined trajectory of the liquid drop and the substrate can transmit the light beam.

12. The liquid drop discharge device according to Claim 8, wherein the light beam emitting means includes means for probing a timing at which the liquid drop crosses at least one of the light beam and a reflected beam of the light beam in response to a discharge signal of the liquid drop, and means for accomplishing at least one of weakening an intensity of the light beam and stopping emission of the light beam at the time.

13. The liquid drop discharge device according to Claim 1, further comprising opening/closing means for opening a discharge port of the discharge head when the liquid drop is discharged.

14. The liquid drop discharge device according to of Claim 13, wherein the discharge port of the discharge head is kept open when the liquid drop is continually discharged.

15. The liquid drop discharge device according to Claim 1, further comprising an enclosure for covering the discharge head, wherein the enclosure is provided with a hole that passes the liquid drop discharged from the discharge head.

16. The liquid drop discharge device according to Claim 1, further comprising a sealed vessel sealing the discharge head and the substrate, and pressure reducing means for reducing pressure in the sealed vessel.

17. A printing device comprising the liquid drop discharge device according to Claim 1,

wherein the liquid drop discharge device is used to carry out printing.

18. A printing method for carrying out printing using the liquid drop discharge device according to Claim 1.

19. An electro-optical device comprising a wiring substrate in which wiring is printed using the liquid drop discharge device according to Claim 1.

20. A liquid drop discharge device, comprising:
a discharge head selectively discharging a liquid drop to a substrate; and
a liquid drop trajectory corrector proximate the discharge head, the liquid drop trajectory controller selectively applying energy to the liquid drop when the liquid drop discharged out of the discharge head diverts from a predetermined trajectory.

21. The liquid drop discharge device according to Claim 20,
wherein the liquid drop trajectory corrector includes a light emitter which emits a light beam surrounding the predetermined trajectory of the liquid drop.

22. The liquid drop discharge device according to Claim 21,
wherein the light emitter includes a laser light source.

23. The liquid drop discharge device according to Claim 21,

wherein the liquid drop trajectory corrector surrounds the predetermined trajectory of the liquid drop with a planar light beam obtained by diffracting a light beam.

24. The liquid drop discharge device according to Claim 21,
wherein the liquid drop trajectory corrector surrounds the predetermined trajectory of the liquid drop with a cylindrical light beam obtained by diffracting a light beam.